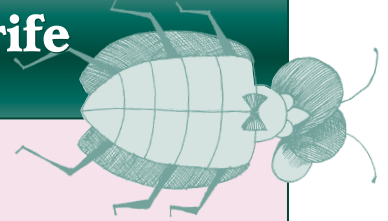


## APPENDIX 8

### Easy Monitoring of Purple Loosestrife Biological Control Sites



A small amount of time spent monitoring can be very satisfying—and will often tell you if you should add more beetles to a site. The procedures outlined here are a simplified version of a more detailed process available to you on request. Your monitoring and reporting can help make the entire Purple Loosestrife Biological Control Project more effective. **Thank you!**

**Spring beetle monitoring:** On sunny, spring days, as the purple loosestrife at a *Galerucella* beetle release site grows to 1-2 feet tall, you should look for any adult beetles that have emerged from over-wintering and returned to feed and mate on the site's purple loosestrife plants. Also look for evidence of beetle feeding, as well as eggs and larvae, to help gauge the site's beetle numbers. Use the "Purple Loosestrife Beetle Spring Census" form provided to record and report your data. Please fill the form out completely and send it in promptly.

Do all monitoring on sunny days. As the purple loosestrife grows to 1-2 feet tall, take a walk through each site and take general notes on beetle numbers, their spread through the site, plant damage, etc. The plants usually grow to 1 foot by early May in the South and late May in the North. Once you start seeing beetles, count them using a consistent area measurer, such as a 1-square meter frame (the best) made of PVC tubing or a hula hoop. For comparisons over time and among sites, try to use the same measurer, keeping the size and shape of the area sampled consistent. On each site, mark with posts or flags the locations of at least several sample spots with loosestrife in them, but use 8-12, randomly chosen spots, if possible. Try to use these same spots every spring and the same number of sample spots at every site.

Put the frame or hoop down carefully at each spot to minimize disturbing the insects. Record the number of adult *Galerucella* beetles you see inside it in 1 minute. Use the abundance categories shown in the chart on the form, not actual numbers. If two people count, decrease counting time to 30 seconds for a total 1-minute count. If you see *Galerucella* eggs or larvae, do another 1-minute count for each type seen. Put these data into the appropriate boxes on the form, using the letters of the appropriate abundance categories. Note every year, by comparing numbers with previous years, if your beetle population is increasing. If it is not, or if you are not sure, and the site's purple loosestrife is still plentiful or even increasing (see late summer monitoring), add more beetles if you can to ensure a healthy beetle population and make the weed's demise that much quicker.

**Summer:** There is no beetle census form for this time, but try to visit your sites regularly through the summer to most easily see *Galerucella* eggs, larvae, and teneral (new) adults, as well as maximum plant damage! Take notes.

**Late summer plant monitoring:** When loosestrife flowering at a site is at its peak (when about the middle  $\frac{2}{3}$  of most spikes are in bloom) stop at the site on a sunny day and photograph it from the photo point(s) you established in its first year. If flowering on a site lessens, you may need to watch flowering in nearby, uncontrolled sites to properly time your photos. Please send copies of photos with your "Purple Loosestrife Beetle Census" forms. Compare the amount of purple loosestrife flowering in newer photos with the comparable older photo(s) to document vegetation changes at the site. More purple than before generally means loosestrife has increased and suggests adding more beetles the next spring. Less purple usually signifies that so many larvae are present on the site, feeding on and killing stem tips where the flowers have to grow, that the current beetle population is doing well. If you see a lot less purple, smile, because fewer flowers mean fewer seeds—a major victory, even if purple loosestrife is never completely driven from the site!

**Equipment needed for monitoring:**

1. PVC posts or brightly colored flags
2. Area measurer, such as hula hoops or square meter frames
3. Clipboard, reporting form, pencil, watch
4. Original map of the site and any previous year census forms
5. Camera and previous site photos

**Reporting:** Mail copies of spring data forms and photos to Wisconsin Purple Loosestrife Biological Control Project, Wisconsin DNR Research Center, 1350 Femrite Dr., Monona, WI 53716. E-mail at [brock.woods@dnr.state.wi.us](mailto:brock.woods@dnr.state.wi.us) or call 608-221-6349 if you have questions, suggestions, or problems.



## Purple Loosestrife Beetle Spring Census

Form 3200-118 (5/03)

**Notice:** Use this voluntary form to monitor and report on your beetle populations. Information reported to the Department will be used for research and management purposes identified in s. 23.235, Wis. Stats. Personally identifiable information is not intended to be used for other purposes. Wisconsin's Open Records law requires the Department to provide this information upon request [ss. 19.31 - 19.69, Wis. Stats.].

**Instructions:** Each spring when purple loosestrife is 1-2 feet tall at a beetle release site, monitor the site on a sunny day for newly emerged *Galerucella* adults, eggs and larvae to see how the population is doing.

First, take notes on a walk through the site. Then put an area measurer, for example a 2.5 ft. diameter hoop or 1-meter square frame, down to mark a quadrat or sample area at each sample spot. Record the number of adult *Galerucella* beetles you see on purple loosestrife within it in one minute. Do not use actual beetle numbers--use the abundance categories from the chart below. Count beetles at several random spots--up to a dozen. Permanently mark the spots with posts to be used in future years. If two people count, decrease counting time by half to give a total 1 minute-person count. If eggs or larvae are present, do another 1 minute count for each type.

**Reporting:** Provide complete information. Mail copies of spring data forms and photos to:

Wisconsin Purple Loosestrife Biological Control Project  
Wisconsin DNR Research Center, 1350 Femrite Dr., Monona, WI 53716  
For additional information:  
Telephone: 608-221-6349  
E-mail: brock.woods@dnr.state.wi.us

### Release Site and Observation Data

Site Name and/or Location

Observation Date	Time	<input type="checkbox"/> am <input type="checkbox"/> pm	Weather	Temperature
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### Site Monitoring Data

Area Measurer Used

☐ 2.5-foot hoop ☐ 1-meter square frame ☐ Other (specify): \_\_\_\_\_

Year

Quadrat Number	Galerucella (use chart at right)		
	Eggs	Larvae	Adults
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

Abundance Categories	
0	A
1-9	B
10-49	C
50-99	D
100-499	E
500+	F

### Field Notes

Observer Name(s)